Research Objective
Develop a combined tactile/bone conduction (BC) device with improved sensitivity and frequency response to enhance Warfighter communications and situation awareness.

Challenges
- Combine tactile/BC technologies in one small electro-mechanical device.
- Develop a mounting solution for the dual-mode device to accommodate different users, headgear, and positions on the head.

ARL Facilities and Capabilities Available to Support Collaborative Research
Facilities and capabilities at APG, MD include:
- Anechoic chamber and indoor/outdoor test rooms with controllable levels of background noise.
- Bone conduction calibration equipment (artificial mastoid).
- Immersive environment and outdoor facilities to test equipment for operational relevance.
- Expertise in tactile and bone conduction communication systems, speech intelligibility, and communication systems for protective gear (masks, etc.).

Complementary Expertise/ Facilities/ Capabilities Sought in Collaboration
- Innovative research approaches and solutions in material, electronics, and mechanical design to develop a tactile/BC device.
- Develop a smart harness solution that is suitable for different head sizes and adjusts pressure at the transducer-skull interface for comfort and effectiveness.